CAFF Designated Agencies:
- Norwegian Environment Agency, Trondheim, Norway
- Environment and Climate Change Canada, Ottawa, Canada
- Faroese Museum of Natural History, Tórshavn, Faroe Islands (Kingdom of Denmark)
- Finnish Ministry of the Environment, Helsinki, Finland
- Icelandic Institute of Natural History, Reykjavik, Iceland
- Ministry of Foreign Affairs, Greenland
- Russian Federation Ministry of Natural Resources, Moscow, Russia
- Swedish Environmental Protection Agency, Stockholm, Sweden
- United States Department of the Interior, Fish and Wildlife Service, Anchorage, Alaska

CAFF Permanent Participant Organizations:
- Aleut International Association (AIA)
- Arctic Athabaskan Council (AAC)
- Gwich’in Council International (GCI)
- Inuit Circumpolar Council (ICC)
- Russian Indigenous Peoples of the North (RAIPON)
- Saami Council


Cover photo: Tromsø at night. Photo: Horia Bogdan/Shutterstock.com
Back cover: Tromsø. Photo: Laila R./Shutterstock.com

Design and layout: Courtney Price

For more information please contact:
CAFF International Secretariat
Borgir, Nordurslod
600 Akureyri, Iceland
Phone: +354 462-3350
Fax: +354 462-3390
Email: caff@caff.is
Internet: www.caff.is

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Preface

The Coastal Expert Monitoring Group (CEMG) is organized under the Circumpolar Biodiversity Monitoring Program (CBMP), an international network of science and traditional knowledge experts, governments, Indigenous organizations and conservation groups working to harmonize and integrate efforts to monitor the Arctic’s living resources under the Conservation of Arctic Flora and Fauna (CAFF) Working Group of the Arctic Council. The CEMG is charged with developing/coordinating a biodiversity monitoring program for coastal ecosystems across the circumpolar Arctic and this work is being organized in an Arctic Coastal Biodiversity Monitoring Plan (the Coastal Plan). For more information on CBMP programs visit the CAFF CBMP website (www.cbmp.is).

The main goal of the Coastal Plan is to identify and work with ongoing initiatives, and recommend new programs as needed, to develop a coordinated, international approach to measure and report important changes to Arctic coastal biodiversity. The 3rd Coastal Expert Monitoring Group and Nordic Workshop worked to define a list of “Focal Ecosystem Components” (FECs). FECs are biological indicators likely to be good proxies of coastal biodiversity change, and ecologically relevant for assessing the functioning of Arctic coastal ecosystems. Thus, their status and long-term trends are important to Arctic decision-makers, residents, academics, and industries. This process will result in a list of FECs to be included in the Coastal Plan together with a similar list of FECs developed for the 2nd Coastal Expert Monitoring Group and North America Workshop in Anchorage in October 2017.

Key objectives for the workshop

- Reach consensus on FEC lists by coastscape, primarily Fjord and Rocky Shore, as well as for those FECs in common with other coastscape and monitoring plans, for presentation within CEMG steering group;
- Evaluate, provide input, and reach consensus on conceptual models for Fjord and Rocky Shore Coastscape for presentation to the CEMG;
- Propose final FEC rankings and prioritized FEC lists for monitoring of the Rocky Shore and Fjord Coastscape;
- Prepare a list of suggestions for FEC attributes and parameters for the Rocky Shore and Fjord Coastscape;
- Merge Nordic workshop results with the Anchorage workshop results to ensure and maintain a circumpolar approach and input to the Coastal Plan.
# Table of Contents

**Preface** .................................................................................................................. 3  
   Key objectives for the workshop .................................................................................. 3

1. Introduction and update of CBMP activities ................................................................. 5

2. Overview and status of CBMP Coastal monitoring plan development ................. 5

3. Description of coastscapes with focus on Rocky shores and Fjords ............... 7

4. Focal Ecosystem Components (FECs) for CBMP Coastal ................................... 8  
   4.1 Identification / Selection of Coastal FECs ............................................................ 8  
   4.2 FEC ranking .......................................................................................................... 8

5. Monitoring of FECs shared by several CBMP groups ............................................ 9

6. Rocky shores and Fjords FECs’ attributes and parameters ................................... 9  
   6.1 Social ecological FECs .......................................................................................... 9  
   6.2 Merging with Anchorage workshop attributes and parameters results ............. 10

7. Workshop outcome and conclusions ....................................................................... 11

**Appendix 1: Program** .............................................................................................. 12  
   Tuesday January 9, 2018 ........................................................................................... 12  
   Wednesday January 10, 2018 .................................................................................... 13

**Appendix 2: Meeting attendees** ............................................................................. 14
1. Introduction and update of CBMP activities

Tom Christensen (CBMP co-chair) gave an introduction to CBMP, CAFF’s cornerstone program focused on biodiversity monitoring and is response to the Arctic Council’s recommendations on biodiversity and ecosystem monitoring (ACIA, 2005).

The CBMP organizes its efforts around the major ecosystems of the Arctic: marine, freshwater, terrestrial and coastal. To date three of four monitoring plans have been approved (marine, freshwater and terrestrial). The CBMP has developed a new Strategic Plan (2018-2021).

Structure of CBMP:
- CAFF board
- CBMP Coordination Committee and Technical Teams
- CBMP groups (Marine, Freshwater, Terrestrial, Coastal)
- National/international networks (e.g., expert, organism group)
- Implementation projects (e.g., State of the Arctic Marine Report)

Finishing the Coastal Plan in synergy with the Marine, Freshwater and Terrestrial CBMP groups should include an ecosystem adaptive monitoring approach, based on a conceptual model(s), focused on answering management questions. The monitoring design should include sampling methods on different scales from local to circumpolar.

Data collection can start based on the monitoring plan, but can be adjusted based on early results, to make the program more responsive to initial results and changing management needs. All monitoring reporting elements should be biotic.

The recently published State of the Arctic Marine Biodiversity Report (SAMBR, https://www.arcticbiodiversity.is/marine) was introduced as an example, inspiration, and template for the later State of the Arctic Coastal Biodiversity Reports (SACBR). State of the Arctic biodiversity reports from the Freshwater and Terrestrial groups are in progress.

Of particular relevance are the SAMBR chapter regarding FECs:
- Baseline / trends
- Drivers of observed trends
- Comparison of compartments (Arctic Marine Areas / Coastscapes)
- Status of current monitoring and advice for future monitoring
- Table comparing designated FECs in Marine Monitoring Plan and FECs actual monitored and reported (SAMBR, table 4.1)

The CBMP Strategic Plan has the goal of keeping CBMP relevant and sustainable in future, and follows recommendations and implementation actions from the Arctic Biodiversity Assessment (ABA) report.
2. Overview and status of CBMP Coastal monitoring plan development

Donald McLennan (co-lead of CBMP Coastal) presented an overview, status and timeline for the CBMP Coastal Plan development.

The steering group and background paper was presented ([https://www.caff.is/coastal/coastal-expert-monitoring-group](https://www.caff.is/coastal/coastal-expert-monitoring-group)).

The definition/boundaries of the coastal domain was presented as described in the Background Paper, but this definition is under consideration towards more fluid boundaries, as introduced at the Anchorage workshop in November 2017:

“The coastal domain is that component of the marine-land interface area that is directly influenced by coastal processes, provides habitat for identified coastal FECs/species, and by its significance within the social ecological system of coastal communities. The boundary is thus fluid and varies by season, geographic situation, FECs/species, management context and human use.”

An approach can be to identify relevant FECs for coastal monitoring and from that define the domain of the Coastal Plan. This process will continue within the CEMG.

To move forward, two key tasks have been identified:

► Task 1: to develop a general methodological approach that can be co-ordinated and reported internationally, but is sufficiently flexible to be implemented by member nations to meet national objectives
► Task 2: to identify a comprehensive, prioritized suite of circumpolar, coastal FECs

A key challenge is to utilize both science and tradition knowledge (TK) in the development of the Coastal Plan.

The Coastal Plan will be developed in an ecological (coastscapes, drivers, biotic interactions, coastal habitats) and social context (stressors and human use) defined within multi-scalar, social-ecological systems (SESs).

The monitoring and management questions, which the monitoring programme should answer, were presented.

The goal/key of the programme to grow and be sustainable is to provide useful and timely knowledge that helps with decision making, including management targets and mitigation tools.

Process and suggested timeline of finalizing the monitoring plan was presented:

1) Coastal Plan Background Paper – February 2016
2) First Experts’ Workshop – Ottawa – March 2016
3) First Writing Workshop – Copenhagen - June 2016
4) Second Experts’ Workshop – Anchorage – Oct 2017
5) Third Experts’ Workshop – Tromsø – January 2018
6) The forward timeline was later developed at the back-to-back steering group meeting right after the WS.

Please consult Chapter 7 for the proposed timeline.
3. Description of coastscape with focus on Rocky shores and Fjords

The six coastscape were presented; Fjords, Rocky Shores and Cliffs, Lagoons, Low Gradient Soft Shores, Rapidly Eroding Shores, Estuaries.

Questions were prepared to facilitate the discussion regarding coastscape definitions and conceptual models for each coastscape.

Are all types of coastscape covered?
Yes, but include archipelago in Rocky Shores definition: Low-gradient to steep coasts (including sea cliffs) with exposed bedrock to the waterline that frequently include rock pools, beaches, and small wetlands. Scattered throughout the Arctic, however, dominant in Canada, Greenland and Norway, and often associated with archipelagoes and the Fjord coastscape.

Is there an appropriate overlap or too much between coastscape?
After FECs have been identified, it can be reconsidered if all coastscape are needed. Renaming is needed, see suggestions below:

► Fjord is considered a closed system if it includes sills and an enclosed part of the fjord basin
► Compartment usefulness is the key and overlap is less important;
► Sufficient linkage between coastscape with respect to monitoring is more important than the overlap.

Coastscape renaming proposals:
Rocky Shores and Cliffs = Rocky shores (archipelago included in description)
Rapidly Eroding Shores = Rapidly Eroding Soft Shores
Estuaries = Open Estuaries

Is the information level appropriate?
The conceptual models are considered as good illustrative tools, however, some changes were proposed.

General comments:
► Landscape profile with geomorphological features and stressors/drivers, and organisms in cross-section
► Clear cut between horizontal and vertical view with increased underwater section
► Bigger icons
► Ice conditions should be reconsidered and included as an important ecological driver in each coastscape
► Acidification as a general stressor for all coastscape
► Noise as a general stressor?

Proposed changes for Fjord coastscape conceptual model:

<table>
<thead>
<tr>
<th>In</th>
<th>Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>More focus on shore and land-water interface than in land</td>
<td>Cetacean</td>
</tr>
<tr>
<td>Estuaries, soft shore</td>
<td>Seabirds above vessel moved to glacier front</td>
</tr>
<tr>
<td>A land and marine terminated glacier, include plume and upwelling</td>
<td>Current arrow</td>
</tr>
<tr>
<td>Water exchange arrows, estuarine circulation</td>
<td>Acidification</td>
</tr>
<tr>
<td>More barren (bleaker) mountains</td>
<td>Fire</td>
</tr>
<tr>
<td>More detailed underwater profiles</td>
<td>Automobiles</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>Nutrients</td>
</tr>
<tr>
<td>Cruiseship (invasive species) Islands?</td>
<td>Fisherman changed from English gentleman</td>
</tr>
<tr>
<td>Ports?</td>
<td>Hunter changed from English gentleman</td>
</tr>
</tbody>
</table>
Proposed changes for Rocky shore coastscape conceptual model:

<table>
<thead>
<tr>
<th>In</th>
<th>Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountains sloping towards rocky inland</td>
<td>Seagrass</td>
</tr>
<tr>
<td>Arctic seabirds</td>
<td>Frigate birds</td>
</tr>
<tr>
<td>More detailed underwater profile with kelp forest and associated fauna</td>
<td>Current arrows</td>
</tr>
<tr>
<td>Tidal zone with typical organisms</td>
<td>Sand bars</td>
</tr>
<tr>
<td>Archipelago</td>
<td>Coastal Grass/Forb Meadows</td>
</tr>
<tr>
<td>River and small estuary indicated</td>
<td>Fire</td>
</tr>
<tr>
<td></td>
<td>Automobiles</td>
</tr>
<tr>
<td></td>
<td>Stream &amp; Groundwater</td>
</tr>
<tr>
<td></td>
<td>Fisherman changed from English gentleman</td>
</tr>
<tr>
<td></td>
<td>Hunter changed from English gentleman</td>
</tr>
<tr>
<td></td>
<td>Permafrost</td>
</tr>
</tbody>
</table>

4. Focal Ecosystem Components (FECs) for CBMP Coastal

Definition of a Focal Ecosystem Component was presented as described in the CBMP Coastal background paper (https://www.caff.is/coastal/coastal-monitoring-publications/362-circumpolar-biodiversity-monitoring-programme-coastal-biodiversity-monitoring-ba)

4.1 Identification / Selection of Coastal FECs

The full list of FECs were evaluated for the Fjord and Rocky shore coastscape by the experts present, and their importance to, or particular connection to each coastscape were evaluated. If not assessed as particularly important for or relevant to the coastscape, that FEC was texted in grey. FECs in red need verification by relevant experts, and if the text is blue it means that no data are available, although the FEC may be considered relative important. This method was applied to all organism groups in the Fjord and Rocky Shore coastscape.

Birds and Mammals FECs were considered for all coastscape. Selection and considerations for Birds and Mammals FECs as being shared with, e.g., the marine group are presented in Chapter 5.

Ice-associated flora and fauna were discussed, and it was suggested to include these FECs in the Coastal list along with plankton and benthic microorganisms.

It was decided to treat the Social-ecological FECs when reaching attributes and parameters in the programme, as the list obtained at the Anchorage workshop in November 2017, mainly consisted of attributes and parameters.

Furthermore, Beaska Niillsa would like to have the opportunity to think about how the social ecological FECs can be included in the FEC table developed for each coastscape. He also explained that regulation (as changes in trade options) was the main driver for changes, e.g., in fishing and food sharing systems.

A list of FECs for CBMP Coastal was finished for further ranking and attributes/parameter designation.
4.2 FEC ranking

The steering group facilitated a Q/A on the FEC ranking done by steering group members. The selected FECs were then ranked by the experts to make sure all aspects were considered. The FECs were ranked according to the criteria developed by the steering group: ecosystem, relevance to management questions and authorities (legislation/regulation), as well as present monitoring status (high, medium, low) for the coastscapes Fjords and Rocky Shores.

Ranking of mammals was carried out for all coastscapes by the marine mammal expert, Kit Kovacs.

Ranking of birds for Fjord and Rocky Shores coastscapes was carried out by experts David Boertman and Hallvard Strøm, respectively.

Ranking of plankton and ice associated organisms were carried out by experts Bodil Bluhm and Philipp Assmy. Phytoplankton and sensitivity to anthropogenic stressors may range from low to high, as there are indicator species very sensitive to contaminants etc, however, viewed as production, phytoplankton may not be that sensitive to some factors, e.g., oil spill. But if climate change is included in anthropogenic stressors definition, then a High relevance was selected.

In the FECs consisting of many different organisms, e.g., phytoplankton, categories for monitoring may need to be identified. For instance sporeforming diatoms, that will drift with the coastal currents and depend on nutrients close to land. This may include harmful algae, which also are coastal phenonmenons.

Microbes are certainly important for all processes in the sea, but are rather insensitive to changes, and do not tend to go extinct even though they lose their habitat.

Ice associated organism groups are highly dependent on the presence of ice (!), but are in any other way not of particular high relevance, with respect to general attention and for monitoring.

Benthic organism groups were ranked by experts Bodil Bluhm, Ole Geertz-Hansen and Paul Renaud, although the ranking of Microbes and Microphytobenthos was not quality assured as it was assessed that the expertise around the table was insufficient for these particular organisms groups.

Fish FECs were ranked by the scientific experts and Beaska Niillas.

5. Monitoring of FECs shared by several CBMP groups

FECs were designated for birds for all coastscapes, and the sharing of seabird FECs between Coastal and Marine group was discussed. It was concluded that some shared seabird FECs may have different attributes according to different questions to be answered in the CBMP groups. For instance, colonial seabirds can be of importance to Coastal reporting due to contribution of nutrients and the harvesting of birds and eggs in nests. However, it is important that data collection is only done once!

Mammal FECs were discussed as the Marine group include 11 species, of which five have received special attention: beluga, narwhal, bowhead whale, polar bear, walrus. The Marine group only included the “true Arctic” species; those who stay in the Arctic year round. But for the Coastal, two seal species that do not stay in the Arctic the whole year should also be considered, since these species are significant ecosystem components of Arctic coastal biology. These species are coastal harbor and grey seal, and should be included as FECs in the Coastal Plan.

Ice associated communities were included in the Coastal FEC list as in the Marine group, although they are currently not monitored and will likely not be in the future.
6. Rocky Shores and Fjords FECs attributes and parameters

Attributes and parameters were defined and presented as described in the Terrestrial Monitoring Plan (https://www.caff.is/monitoring-series/256-arctic-terrestrial-biodiversity-monitoring-plan).

The workshop sought to allocate attributes and parameters to all FECs in the Fjord Coastscap. There is still some confusion on what is an attribute and what are parameters, however, to support this process, units were added to the parameters.

6.1 Social ecological FECs

Beakse Niillas proposed a system, which may work to include TK in the FEC, Attributes, Parameter table:

<table>
<thead>
<tr>
<th>FEC</th>
<th>Attribute</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local indigenous peoples ecosystems*</td>
<td>Language</td>
<td>Number of language speakers, quality</td>
</tr>
<tr>
<td></td>
<td>Food sharing systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Human health</td>
<td>Good/bad</td>
</tr>
<tr>
<td></td>
<td>Coordination of human activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Traditional activities/food</td>
<td>Access, diversity, quality, knowledge</td>
</tr>
<tr>
<td></td>
<td>Local or remote management</td>
<td>biodiversity, life quality</td>
</tr>
<tr>
<td>etc.</td>
<td></td>
<td>etc.</td>
</tr>
</tbody>
</table>

*Indigenous peoples group

According to Beaska Niillas, there are 21 indigenous peoples groups, e.g., in Canada, US, Russia, Scandinavia, etc.

6.2 Merging with Anchorage workshop attributes and parameters results

Donald McLennan gave a summary of the discussion on attributes and parameters from the Anchorage workshop in November 2017.

The approach was brainstorming on selected FECs, such as walrus, suggesting attributes and parameters without separating the two information levels to reflect the holistic perspective of IK experts.

The FEC groups, that were selected and treated; fish, benthic organisms, waterfowl, all birds, land mammals, marine mammals, plankton (partly).

The brainstormed input was sorted according to habitat and environment into parameters and attributes for each organism group (FEC) considered.

The FECs, parameters and attributes listed at the Anchorage Workshop may also be considered as drivers and methodologies, and hence the list may need to be sorted carefully to get the full benefit from the exercise when merging with the Ottawa and Tromsø workshop results.

TK data obtained from standardized interviews, Nunavut Coastal Resources Inventory (NCRI), is available and can be reproduced on, e.g., walrus distribution and migration routes for selected marine mammals. The TK information is presented in a spatial manner (maps). From the maps, attributes and parameters can be extracted.

The information from NCRI is considered as true sharing within local regions, and all shared information is oral.

Beaska Niillas explained that trust in scientists by indigenous people is very low, and scientists may be considered as destroyers and neglecters. Hence a more positive relationship between indigenous people and scientists needs to be established.
The list from the Anchorage Workshop is also to be considered as drivers and methodologies, and so the list may need to be sorted carefully to get the full benefit from the exercise when merging with the Tromsø workshop results.

The NRCan – CanCoast data base was introduced by Donald McLennan, which may serve as base for developing the monitoring grid for sites in Canada covering all coastscape; maps are based on GIS information layers. Furthermore, the questions used at the Anchorage workshop should ensure that FECs are identified which are key in the ecological services for local/regional indigenous peoples.
7. Workshop outcome and conclusions

Coastscapes were discussed and found valuable for organizing monitoring in the CBMP coastal.

A number of suggestions for changes to the conceptual models of coastscapes were put forward.

FECs were selected and ranked for the Fjords and Rocky Shores Coastscapes.

Marine mammals were selected and ranked for all coastscapes.

Attributes and parameters were allocated to some FECs (Birds, plankton) in Fjords, the remaining FECs will be treated by the experts as homework.

Goals for the workshop were considered to be met.

Identified tasks / steps forward for development of the CBMP Coastal monitoring plan:

1. **FEC list and ranking for the last four coastscapes; Lagoons, Low Gradient Soft Shores, Rapid Eroding Soft Shores, Open Estuaries. FEC list and ranking have been developed for mammals for all coastscapes.**

   Remote expert input through telecom conferences will be conducted to finish the coastscapes not quality assured with respect to FEC lists and associated attributes and parameters.

   Experts will be designated from developed expert list together with other relevant experts and their networks. Maria and Susse will lead the process to finish the FEC, attributes / parameters and ranking tables for all coastscapes.

2. **Adjustment and update of coastscape conceptual models**

   Based on the suggestions for changes for all coastscape conceptual models, these need to be adjusted and updated.
   - Susse will inform Tazhy, who will bring them back for the graphic changes.

3. **Merging of Ottawa, Anchorage and Tromsø workshops outcomes**

   Will be planned when FEC lists for all coastscapes are selected and ranked.

4. **Coastal monitoring plan in relation to the other programmes**

   When we have developed the list/matrix of most important coastal FECs as reflected in the ranking of FECs for all coastscapes, we will identify the FECs (and attributes) that are shared by coastscapes and shared by other CBMP programmes for cooperation on data collection and synergy between CBMP programmes. This exercise will also reveal which FECs are unique for the CBMP coastal and should receive particular focus from our group.
   - Tahzay leads the FEC prioritization assessment process.
   - Donald and Tom will lead the analysis of shared and coastal unique FECs and their attributes.

5. **Organisation within the Coastal group; national, by organism groups, by coastscapes?**

   How the work in the group will be organized will be considered when FECs are selected and ranked as it is expected that this process will reveal a logic and workable organization.
6. **A plan forward for co-generation of knowledge**

A dedicated session(s) on co-generation of knowledge is required to take this further. A telecom conference should be organized with a programme including goals, presentation(s) and outcome for the session(s) by end of February 2018 the latest.

- Carolina will lead the session(s), develop the programme and circulate report(s) / documents for all members to be prepared
- Donald and Tahzay will support the process.

7. **Proposed timeline for CBMP Coastal monitoring plan development, as developed through steering group meeting back-to-back with Tromsø workshop:**

   a. Tromso workshop report to CEMG – January 30
   b. Finish FEC prioritization process - end of May
      i. finalize tables for all Coastscapes with required QA – Susse and Maria to lead
      ii. finish Rocky Shore and Fjord Coastscapes
      iii. finish other coastscapes and conceptual model input
      iv. Conduct FEC assessments from QA’d tables – Tahzay and Donald – end of June
      v. Conduct analysis of FECs for data compilation and reporting – Donald and Tom C – end of June
   c. Co-generation of knowledge session(s) – input from Carolina re timing
      i. Need dedicated session on how we will go forward with co-generation of knowledge aspects of the Plan
      ii. Carolina to lead and Donald to assist
      iii. Tahzay to discuss with Carolina
   d. Pre-final draft of Coastal Plan – August 15
   e. Final writing meeting– week of August 15?
   f. Draft for Expert Review – September 30
   g. ABC Meeting – October 9-11
   h. Expert Review – November 15
   i. Final draft for CAFF/National review – December 15
### Appendix 1: Program

**Tuesday January 9, 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Suggested content</th>
<th>Output</th>
<th>Presenter / facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Welcome, goals and introductions</td>
<td></td>
<td>WS goals identified</td>
<td>Maria</td>
</tr>
<tr>
<td>9:20</td>
<td>CBMP update</td>
<td>Presentation of status in the other CBMP groups</td>
<td>Make sure we are at the same page, and benefit from the other groups where possible</td>
<td>Tom C</td>
</tr>
<tr>
<td>9:35</td>
<td>Status of the Coastal Monitoring Plan</td>
<td>Presentation of the work so far and plan for work forward and finalization</td>
<td>Time table defined</td>
<td>Donald/Tahzay</td>
</tr>
<tr>
<td>10:00</td>
<td>Coastscape</td>
<td>Presentation of definitions and conceptual models; expert discussion of potential gaps and overlap between coast scapes</td>
<td>Proposals for potential adjustments of definitions and conceptual models ready for the Coastal Monitoring Plan</td>
<td>Susse</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch / walk &amp; talk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00</td>
<td>Focal Ecosystem Components (FECs)</td>
<td>Presentation of FECs selected for the CBMP Coastal; full list and coast scape allocated. The terms attributes and parameters will be introduced</td>
<td>Commented excel sheet with list of coastal FECs and list of coastal FECs allocated the coast scapes Rocky Shore and Fjord</td>
<td>Maria</td>
</tr>
<tr>
<td>13:30</td>
<td>Coastscape FECs</td>
<td>Discussion of the FEC lists and allocation to coast scapes</td>
<td>Potential suggestions for changes in lists of FECs</td>
<td>Maria</td>
</tr>
<tr>
<td>15:00</td>
<td>Coffee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30</td>
<td>Lists of FECs in common with other coast scapes and monitoring plans (e.g., marine)</td>
<td>Discussion of FECs selected for Rocky Shore and Fjord in common with the other coast scapes as well as selected FECs in common with other monitoring plans, e.g., marine</td>
<td>FECs in common with other monitoring plans identified and presented in a table, optimally an illustration / conceptual model will be developed</td>
<td>Susse</td>
</tr>
<tr>
<td>17:00</td>
<td>Wrap up</td>
<td></td>
<td>FECs lists; total and per coast scape agreed upon as well as those in common with other coast scapes and monitoring plans identified</td>
<td></td>
</tr>
<tr>
<td>17:30</td>
<td>End of Day 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>Suggested content</td>
<td>Output</td>
<td>Presenter / facilitator</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>8:30</td>
<td>Introduction to FEC ranking, attributes and parameters</td>
<td>Presentation of current ranking, potential attributes and parameters as in Marine Monitoring Plan / Anchorage meeting</td>
<td>Preparation for quality assurance of FEC ranking and designation of attributes and parameters</td>
<td>Maria</td>
</tr>
<tr>
<td>9:30</td>
<td>Quality assurance of FEC ranking in Rocky shore and Fjord coast scapes</td>
<td>Discussion of FEC ranking for Rocky shore and Fjord coast scapes</td>
<td>Proposed final FEC ranking and prioritized FEC list for monitoring of the Rocky shore and Fjord coast scapes; development of need and nice to have lists to be agreed upon in the coastal steering group</td>
<td>Maria</td>
</tr>
<tr>
<td>11:30</td>
<td>Listing attributes and parameters for selected FECs for Rocky Shore and Fjord coast scapes</td>
<td>Suggestions for attributes and parameters will be based on the other CBMP groups’ lists as well as expert inputs</td>
<td>List of suggestions for FEC attributes and parameters for the Rocky Shore and Fjord coast scapes</td>
<td>Susse</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch / walk &amp; talk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00</td>
<td>Continued: Listing attributes and parameters for selected FECs for Rocky Shore and Fjord coast scapes</td>
<td>Suggestions for attributes and parameters will be based on the other CBMP groups’ lists as well as expert inputs</td>
<td>List of suggestions for FEC attributes and parameters for the Rocky Shore and Fjord coast scapes</td>
<td>Susse</td>
</tr>
<tr>
<td>14:00</td>
<td>Wrap up</td>
<td></td>
<td>Proposed FEC ranking and prioritized list of FECs for Rocky shore and Fjord coast scapes with suggestions for attributes and parameters</td>
<td></td>
</tr>
<tr>
<td>15:00</td>
<td>End of day 2</td>
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</table>
| 15:00-18:00| Closed meeting for steering group (SG) representatives located in Tromsø | • Evaluation of Nordic WS results with respect to finalizing Monitoring Plan  
• How to merge input from Anchorage and Nordic WS into the Monitoring Plan  
• Agree on timeline and tasks to finalize Monitoring Plan | List of suggestions for FEC attributes and parameters for the Rocky shore and Fjord coast scapes including Anchorage general suggestions | Donald, Susse, Maria    |
| 18:00-19:00| Coastal SG meeting by teleconference for updating all SG members on outcome and discuss next steps | All SG members to be updated on outcome and discuss next steps                       |                                                                                                                                                    |                         |
## Appendix 2: Meeting attendees

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodil Blumh</td>
<td>Tromsø University</td>
</tr>
<tr>
<td>David Boertmann</td>
<td>Aarhus University</td>
</tr>
<tr>
<td>Donald McLennan</td>
<td>Polar Knowledge Canada</td>
</tr>
<tr>
<td>Beaska Niillas</td>
<td>Same Association</td>
</tr>
<tr>
<td>Hallvard Strøm</td>
<td>Norwegian Polar Institute</td>
</tr>
<tr>
<td>Kit Kovacs</td>
<td>Norwegian Polar Institute</td>
</tr>
<tr>
<td>Maria Pettersvik Arvnes</td>
<td>Norwegian Environment Agency</td>
</tr>
<tr>
<td>Ole Geertz-Hansen</td>
<td>Greenland Institute of Natural Resources</td>
</tr>
<tr>
<td>Paul Renaud</td>
<td>Akvaplan-Niva</td>
</tr>
<tr>
<td>Philipp Assmy</td>
<td>Norwegian Polar Institute</td>
</tr>
<tr>
<td>Susse Wegeberg</td>
<td>Aarhus University</td>
</tr>
<tr>
<td>Tom Christensen</td>
<td>Aarhus University</td>
</tr>
</tbody>
</table>
For further information and additional copies contact:

CAFF INTERNATIONAL SECRETARIAT

Borgir
Nordurslod
600 Akureyri
ICELAND

Telephone: +354 462 3350
Fax: +354 462 3390
E-mail: caff@caff.is
Internet: www.caff.is